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THE JOURNAL OF PHILOSOPHY

# CONTINGENCY AND NECESSITY IN NATURE[1]

I SUPPOSE a philosopher should solve problems of some sort, but a wise philosopher knows his limitations. How rarely solutions please anyone but their authors! Nevertheless, from time to time it is desirable to reconsider facts relevant to our points of difference lest we keep the air filled with the dust of stereotyped arguments and obscure real issues. To-day I think we should reconsider our discussions of contingency and necessity as concepts applicable to the physical world. We are living in an age of science; philosophy, always inspired by the spirit of its age, is drinking deeply of its nectar. There is for it no greater bug-a-boo than condemnation as unscientific. Hence philosophy is tending to become, for the most part, an advocate of determinism. But to-day those sciences that have most strongly insisted upon a completely deterministic world structure are relaxing their demand, or even suggesting that contingency is more basically real than necessity. If we are interested in contingency, our friends the physicists will supply us with data, and even show us how a statistical treatment of elementary contingencies can be reconciled with the lawful appearance of the gross physical world. If we lean toward the belief in a necessary cosmic structure, there are still plenty of scientists to applaud. We have escaped the pressure of authority and are free to follow our own devices. Perhaps we can at least set forth some conditions and limitations of our relevant knowledge.

Before approaching the problem philosophy should insist upon one pertinent distinction: there is a difference between the question as to whether the concept of contingency or necessity is to be applied to the way events happen or to the occasion of their happening. I shall call the first, the question as to *mode* of occurrence, and the second, the question as to *occasion* of occurrence. For example, it may well be a necessary, or universally prevalent, character of nature that hydrogen behaves as a monovalent, and oxygen as a divalent, atom under specified conditions, or that volumes of gas vary inversely as the pressure to which they are subjected.

[1] Read at the meeting of the Western Division of the American Philosophical Association at Cincinnati, March 28, 1929.

But such necessity (I am here using the term "necessity" to mean universally prevalent—to my mind the only permissible meaning since Hume) is *modal.* It does not follow that the nature of the universe demands that any particular hydrogen or oxygen elements are exhibiting these properties at any specified here-now or that they will do so at any specified there-then. Nor do particular gases thereby agree to show off for some delighted observer.

In the vocabulary of logic we may describe the situation by saying that *modal* determinations always find their expression in hypothetical propositions: If such and such a situation is realized, such and such characteristics will be present. The propositions concerning *occasions* of occurrence are always specific and categorical: this water will be ice tomorrow morning. These forms of the hypothetical and categorical proposition are not mutually reducible, in spite of the generalizations of formal logic. The former, or *modal* determinations, seem to be justified by the success of science and I think few would be inclined to question the reality of this sort of determinism in nature, but when the element of time enters, the spectre of uncertainty begins to rear its head. What demonstrator in physics has not had his apparatus set up and appeared before his audience only to experience chagrin as his glibly predicted phenomena fail to appear?

Predictions themselves tend to take on a pseudo-modal form, for they state: if certain processes of nature within a limited system are not interfered with from without the system, an anticipated result will be realized. But this is really only an assumption of *modal* necessity. It does not tell us that there will be no such interference. To be sure we live our lives by trusting in predictions of *occasions* of occurrence, but with varying degrees of confidence as the opportunities for interference fluctuate. I am quite sure that the paper that I am throwing into the fire will burn. That is the *mode* of occurrence when paper and fire meet. The factors relevant to this occurrence form a set in which it would rarely occur that something from without should intervene to fireproof the paper or extinguish the flame between the time the paper leaves my hand and the time when it makes contact with the fire. If the interval between here-now and the predicted event were longer, or the spatial relations involved were more complex, prediction would inspire less confidence. Yet it is practically safe to count on lunching at home this noon although some fiercely rampant motor car may prevent my arrival or the house be destroyed by fire before the meal is prepared. At a pinch we may even trust the weatherman, although "the best laid plans of mice and men gang aft agley."

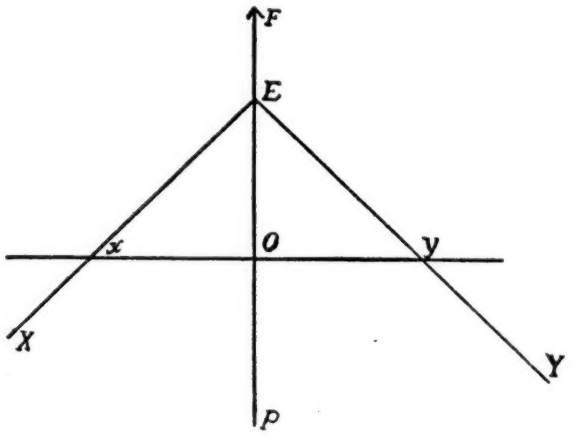
The difficulties inherent in the prediction of occasions of oc-

currence give rise to our doctrine of chance. Two cases are to be distinguished. Chance, as frankly a name for ignorance, applies to such occurrences as result from the pitching of pennies, where the probability of heads or tails is based upon disjunctive possibilities that would be assumed to be determinate if we could make sufficiently accurate initial observations. But there is another sort of chance that, if it results merely from ignorance, results from ignorance of a different sort: the chance that results from the interference between events of different orders, or on different levels, of the physical world. That a sunbeam happens to hit on a particular leaf implies one series of events leading to the emission of that particular beam from a particular place on the sun at a particular moment; another series, that brings the earth into a certain relative position to the sun at the time of the arrival of the beam; another series, that leads to the evolution and appearance of the plant with its leaf at the proper time and place on the earth; and perhaps a fourth, that accounts for the wind coming to sway the leaf into the exact path of the sunbeam to consummate the meeting. Where it is comparatively easy to imagine the penny's fall as an event within a deterministic universe, it is harder to imagine the several series of events leading to the meeting of sunbeam and leaf as not only necessary in themselves, but determinately pointed in time toward their final coincidence. Both are really cases of *occasion* determinism, but the simplicity of the first event makes it easily confused with mode determinism while the complexity of the second forces the more complex problem of determinism or necessity in cosmic history.

It is not a solution to assert that there are laws of the composition of complex structures of nature as well as of their behavior; that electrons and protons arranged in a certain way will always give an atom of a predictable kind, or that similar arrangements of similar atoms will always give an anticipated molecule. Such laws are really modal. The assumption that, if we knew enough, from a world of electrons and protons, we could predict the characters of all possible atoms, and from them the character of all molecules, and so on through to the characters of all possible organisms, may be valid, in spite of the doubts of Lloyd Morgan and S. Alexander as to the predictability of emergents, but even if it is, this predictability is a very different thing from that of specific occurrences and interactions between definite entities temporally and spatially localized on these different levels and at a future time.

But it is a mistake to lay too much stress on the question of predictability as throwing light on the question of contingency or necessity in nature, for it is quite possible to prove that even if

the universe is shot through with necessity, the certainty of any actual prediction must always remain in doubt. I have been reminded that Mr. Bradley has some such proof. Eddington has also offered a demonstration (*Nature of the Physical World,* p. 299). The former involves, I believe, epistemology; the latter depends upon certain special theories of modern science. There is a more general, but equally cogent, proof given me by Mr. C. W. Vickery, a Texas graduate student. It runs as follows: Let us start with




Eddington's causal cone. An event *E* is to be predicted as an occurrence at a specified future time. Since no physical influence can travel at a speed greater than the speed of light, the more remote in space a region from which an influence travels to affect *E* at the time of its occurrence, the earlier in time the initiating event that sends forth that influence must have occurred. (If anyone objects to accepting the thesis that no physical velocity can exceed that of light, it is sufficient for this proof to admit that no physical velocity can be infinite.) Thus we can cut out of past space-time a sort of causal cone, *EXY,* where the lines *EX* and *EY* represent the most remote events that can transmit influence to *E* that will arrive by the time of its occurrence, and within the cone will lie all other events that can affect *E*. The direction of time is marked by the line *PF*. Let us place our would-be predictor at *O,* prior to *E* on the time-line *PF*. In order to predict *E* he must become aware of all of the relevant events on the base of the causal cone *Exy,* since from any event on *xy* a modifying influence may affect the occurrence of *E*. To take account of these events, *O* must receive some signal from each indicating its character. These signals also must have a finite velocity less than that of light, but by the time signals from the periphery of the causal cone *Exy* arrive where *O* would be at the time on their arrival, the event *E*

would be occurring. Hence *O* can not have the necessary data to predict *E* until *E* occurs. The diagram represents an observer here-now trying to predict an event here-then. If his problem had been to predict an event there-then, the proof would still hold, but it would be events on or near the other side of the causal cone of which he could not be informed. In other words, the structure of the universe is such that we can not be sure that we have taken into consideration all the influence that may affect a future event until that event happens. Be it noted this proof does not depend upon any theory of the nature of mind, nor of the nature of knowledge, but merely on the structure of the physical world.

The argument that the world *must* be shot through with necessity because of the possibility of predicting future events is accordingly untenable, but this does not prove that the universe *may* not be so constituted. In order to give the claims of predictability a chance, we have assumed that the causal cone really contained necessary and sufficient factors to determine the occurrence of *E*. At least such conditions can not occur outside of it. They may or may not be within it. If it is true of an atom that " the classical theory would have asked and hoped to answer, What will it do next? . . ." whereas "The quantum theory substitutes the question, Which will it do next? . . . and contents itself with calculating the respective odds on jumps" to different possible states, in so far as *yx* contains atoms, the case for determinism does not look favorable. But I should not like to lay too much stress on this line of argument. I feel profound sympathy with Eddington's assertion (*Nature of the Physical World,* p. 211): "It would probably be wiser to nail up over the door of the new quantum theory a notice, 'Structural alterations in progress! No admittance except on Business!' and particularly to warn the doorkeeper to keep out prying philosophers." Now I am a law-abiding citizen and no peeping Tom, and I am only skirting the premises for a bit of scaffolding to support the edifice based on the assertion that while the physical determination of an event can not lie outside of the causal cone of the event, it does not necessarily exist within it.

Now let me return to considerations a little more clearly within the province of philosophy. It is a curious fact that while philosophers, under the influence of science, are being converted to a doctrine of the reality of time, scientists seem equally busy in trying to rid themselves of this doctrine. I think we should claim for Spinoza's conception of a world seen *sub specie æternitatis* the honor of anticipating the interpretation of time as a fourth dimension. Eddington has a delightful illustration (*loc. cit.,* p. 87) that I take the liberty of interpreting as support for this point: "When you say to yourself, 'Every day I grow better and better,'

science churlishly replies: 'I see no signs of it. I see you extended as a four-dimensional worm in space-time; and although goodness is not strictly within my province, I will grant that one end of you is better than the other. But whether you *grow* better or worse depends on which way up I hold you. There is in your consciousness an idea of growth or "becoming" which, if it is not illusory, implies that you have a label "This side up." I have searched for such a label all through the physical world and can find no trace of it, so I strongly suspect that the label is non-existent in the world of reality.' " Or the scientist may become a little more gracious and say: "I have looked again and in the course of studying a property called entrophy, I find that the physical world is marked with an arrow which may possibly be intended to indicate which way up it should be regarded. With that orientation I find that you really do grow better. Or, to speak precisely, your good end is in the part of the world with most entrophy and your bad end is in the part of the world with least. Why this arrangement should be considered more creditable than that of your neighbor who has his good and bad ends the other way around, I can not imagine."

It is clear that time is here thoroughly spatialized, and we, as space-time worms, are being viewed *sub specie æternitatis*. The distinction between contingency and necessity, however, still has meaning for this Spinozistic scientific world, but not quite the meaning philosophy has assumed. The criteria for the differentiation can be stated somewhat as follows, but as I don't like worms let me substitute a bar of peanut brittle for the space-time worm. Such a bar may be said to represent a deterministic temporal world plan if in any cross section of it we can find a group of nuts such that wherever a similar grouping of nuts occurs, there will occur at a definite distance to the left or right of it a nut or group of nuts, the same in each instance, or making it possible to sketch a recurrent pattern of nut distribution. If this is not possible, the distribution of nuts represents a contingent world order. The orderly distribution of nuts is equivalent to the assertion of *event* determinism in the scientist's space-time universe; to discover that the nuts are of one sort, or of a limited number of sorts, is equivalent to discovering the fact of *mode* determinism.

Of course, it is not necessary to follow Eddington in this spatialization of time. Bergson has maintained that science can never depict things as they are, since intelligence must always falsify. This may be true, but we are not compelled to take refuge in Bergsonian intuitionalism. The kind of falsification that intelligence introduces may be merely that of selectivity, or of the sort that a map introduces with respect to the country mapped. If

we apply this notion to such a conception as Eddington's, the facts of entrophy that give direction to time's arrow are really nothing but the map-maker's notation of the facts substantiating the reality of time, and the scientist's refusal to state whether the "better end of you" is earlier or later, is like the map-maker's refusal to state why he puts the east at the right of his map and the west at the left. It would be as easy to view the world from the north as from the south pole.

If real time is merely mapped by entrophy, and entrophy means loss of organization and increase of randomness, the empirical evidence would be that time is a real principle of contingency in nature. The philosopher who would see God as rational and eternal, should ally Him to space and may be forced into the Manichean heresy of finding the world a conflict between his good spatial God and a time God who plays the devil with the order of things. However, all scientists do not lay the same stress on the theory of entrophy that Mr. Eddington does. Professor Lewis, for example, limits the law to the assertion that "an isolated system always proceeds in the direction of greater entrophy, provided that it be so far removed from the state of equilibrium that the chance fluctuations in that state may be ignored" (*The Anatomy of Science*, p. 155). In other words, such systems move toward and away from a state of equilibrium and in the long run as often in one way as in the other. The apparent degradation only comes from our unfamiliarity with large numbers. Mr. Lewis seems to think that the best chance of establishing one-way time is from the nature of the processes of living organisms which are, he believes, "Cheats in the game of entrophy."

If philosophy is concerned, as I believe, with shaping a metaphysics of nature that can serve us in selecting from among our possible ideals those that are at once desirable and possible to approach in realization, it would be extremely helpful for us to know whether we belong to a universe that is playing about in some flux of random changes, or whether it has about it some directional tendency we should like to further or retard, or whether it is realizing some purpose with which it behooves us to coöperate. I do not see at present any possibility of deciding between these alternatives. That we can not do so should not be a source of wonder, however much it may be a source of regret. After all, the observations from which we must draw our conceptions of the nature of cosmic processes only extend over a few centuries. Fractionally what part are these of the millions of years the cosmologist must pretend to interpret? If some wanderer from Mars, swooping near the earth in interplanetary flight, should detect a lonely canoeist and return to derive the laws of movement of that strange terres-

tial object for his fellow Martians, i.e., its eternal laws of movement, how accurately would his laws express the behavior of the man for a day, or even for a single hour? Yet he would have several times the proportionate data on the basis of which we predict the constancy of processes over millions of years. Of course, an answer suggests itself: we know that men vary their forms of activity at frequent intervals within a day. Yes, we know it because we have seen men for days and days; if we had seen the universe for millions of millions of years, we might not be quite so certain that its uniformities are just what we take them to be.

There is no gain in the pretense of wisdom. Dialectically, it can be proven that the universe is wholly contingent, that it is the slave of determinism, or that it is a mixture of both. But all such proofs can be equally easily confuted. For those of us who do not believe that dialectic can put constraint on nature, neither such proofs nor such refutations are very important. Also, since the question is not epistemological, but concerns the real nature of the universe, we can make no such distinction as that by which Kant solved the antinomies.

Philosophers have often felt that a proof of the reality of contingency would somehow make more easy a moral doctrine of the freedom of the will, but I think this is a mistake. Scientists seem to be inclined to fall under the same illusion. Much as I admire Mr. Eddington and Mr. Lewis, I can not but think that their efforts to develop a philosophy of the mind out of those aspects of modern physics that seem to favor contingency are wholly misdirected. The sort of mind that might result from random atomic changes would, to be sure, be one in which the unexpected might occur, but this unexpectedness would resemble more the inconsequentiality of a lunatic than the moral freedom of a well-balanced man.

Freedom, in the sense in which it can be significant for the moralist, is something very different from the possible vagaries of atoms and electrons. As a capacity to do what one ought or what one wants, it means the effective guidance of action by intelligence towards ends that appear as wholly desirable. This is not random movement, and even if we look upon man as an integral part of nature, an object amongst other objects, we are concerned with the behavior of an object on a high level of complexity. But objects on each level have their own characteristic laws of behavior. We may explain their capacities from those of entities of lower levels that enter into their structure, but the character of their actions has a unique status upon their own level. The mechanical significance of a water power can not be expressed in terms of electrons, nor can the most exacting behaviorist explain a thought as a chem-

ical process, although the thinking may involve physico-chemical changes as flowing water may involve the movement of electrons.

This paper must remain inconclusive. I have merely tried to put before you four points on which I think philosophers should be able to come to some sort of agreement: (1) that there is very much more reason for believing that there are limitations as to the ways in which things can happen in the universe, than for believing that there is necessity as to what is going to happen. In brief, *mode* determinism is much better assured than *occasion* determinism; (2) that the question of the predictability of events is quite independent of the question of necessity in nature, since the nature of things is such that predictions can never be infallible and by statistical methods we can make practically valuable predictions even in a universe where real contingency occurs; (3) that whether time is conceived Spinozistically as a fourth dimension or in Bergsonian fashion as a creative principle, the universe could have a structure to which one of these concepts would be more truly applicable than the other; (4) and lastly, the whole question of contingency or necessity in nature is wholly independent of the moralist's problem of the freedom of the will and can only lead to absurdity when confused with that problem.

Now I have solved no problem and I suppose my conclusion as to the status of contingency and necessity in nature will be classified as agnostic. At some time in my career I was taught that agnosticism is philosophically impossible. I forget the argument, but I can not see why philosophy, in so far as it is dependent upon empirical knowledge for data, must not at times rest in a state of suspended judgment. Most empiricisms would have profited by more of such restraint. The difficulty is that philosophers must offer some tentative conclusions in spite of ignorance. Hence philosophy has a speculative element and must be continually revised. The most that we can insist upon, is that its conclusions be plausible in the light of the knowledge of the day. New knowledge may always alter or confirm its tenets. There are, after all, but a few possible philosophical attitudes that evoke the loyalties essential to a significant philosophy, and these have been used against varying backgrounds of knowledge. Yet to make them effective they must be set forth for each age in the terms of such knowledge as the age possesses. However, it is quite possible to philosophize with some modicum of suspended judgments of fact. A philosophy so set forth, while it may not be architectonically perfect, has at least the mark of unpretentious sincerity, and that is a virtue not to be wholly despised.

HAROLD CHAPMAN BROWN.

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## BEYOND MONISM AND DUALISM

THE movement which has generally been called "critical realism" began as a protest against the epistemological monism (pan-objectivism) then (and still) popular—the notion that perceptual data (now frequently called "sensible appearances") and sensation-data (sensa, the data of inspective situations) have, in the nature of the case, objective existence in the world about us. Some of the original critical realists held the only logical alternative to be epistemological dualism, the doctrine that sensible appearances and sensa exist as mental states, *representing* the outer physical objects. Santayana, Strong, Rogers, and I, however, held, and still hold, that neither doctrine is accurately true; the data that confront us in perception and sensation are, like the data that confront us in imagining and dreaming, merely *what we seem to see* (or hear, etc.), merely supposititious entities, like people in dreams, having no existential status at all, except as what-we-seem-to-see happens, by good fortune, to be what-is-really-there.

Mr. Lovejoy has been, I suppose, the arch-defender of the dualistic doctrine in this country. I was not privileged to hear his Carus lectures, and must await publication of his book to see what new (and doubtless forcible) arguments he has to offer. But meantime some of my dualistic friends are taking comfort in an article by Mr. Kent in this JOURNAL for November 8, 1928, which is expressly directed against my own version of critical realism, as developed in *Mind and its Place in Nature*. Mr. Kent is sure that there is, really, no *via media* between a thoroughgoing monism and a thoroughgoing dualism, and that my position is grossly illogical. I quote from his article:

"In his criticism of pan-objectivism, Professor Drake rejects the relation of identity as a *sufficient* principle of ontological explanation. He contends that the *whole* content of given experience can not be identified with objective reality. With the rejection of the relation of identity between the datum and objective reality, it is necessary for critical method to replace the monistic solution of the ontological problem by a dualistic hypothesis. . . . A critical hypothesis on a dualistic basis which does not identify the two orders must assume *two orders of existence*. The one is the given order of existence, or datum of experience. The other is the objective world as it exists for itself. . . . It is impossible to formulate consistently any hypothesis which attempts . . . to include the objects of *veridical* perception as members of one objective order, while regarding *other* objects or qualities as existing only in the mind, or for consciousness. . . . The logical requirements of

the situation call for an hypothesis which will give consciousness and its objects the same character in all cases."[1]

Now our contention has been, precisely, that we are *not* driven to either horn of this dilemma. We do not believe that "the whole content of given experience can be identified with objective reality," *nor* do we believe in "two orders of existence," a "given order of existence" and an "objective order of existence." And we have refused to call ourselves dualists precisely to distinguish ourselves from our brethren who do believe in these two realms of existence. We believe we *have* formulated a consistent hypothesis, and we suspect that the trouble lies in our critics' failure to understand it. It may be worth while, then, to harp on the matter a little longer.

It is quite clear, indeed, that Mr. Kent does *not* understand our theory, for he misstates it. He represents us (in the passage quoted) as holding that the objects or qualities which confront us in non-veridical perception *exist in the mind.* That phrase represents his view of the necessary alternative to "direct awareness of objective reality," but it misses the distinctive character of *our* view, so patiently reiterated, that the non-veridical elements in perceptual experience *do not exist at all,* either in the mind or anywhere else. For him, as for our other dualistically-minded friends, everything that *appears* to us in conscious experience, everything, that is, that we seem to see or hear or feel, *must* be an actual existent, *either* physical or mental. And that dichotomy is final: physical existent is physical, mental existent is mental, and never the twain shall meet.

To me it seems that this *existentializing* of the data of experience—a habit which the pan-objectivists and the dualists have in common—is the great mistake which lies at the root of all our trouble over the epistemological problem. It is a habit very hard to uproot. It took me, I recall, a long time to convince myself that what is so vivid, so apparently *there,* as a sensible appearance, or a sensum, may not be there at all (or anywhere) in any existential sense. And I am very sympathetic with all these critics who insist upon finding an existential locus for these obtrusive entities. There *are,* of course, such entities, and they do confront us; they are, in fact, the only sort of thing that does confront us *in consciousness* (though, in another sense, physical objects "confront" our bodies). Moreover, their appearance to us can be dated, and thus they can be given a locus in time. They can even be given a spatial locus, though this results in a very complicated chaos of non-dovetailing spatial "perspectives," rather than in the mapping out of a single spatial order, or of two spatial orders, one physical and one mental.

[1] This JOURNAL, Vol. XXV, pp. 618–620. My italics.

Why, then, deny that this order of appearances is an *existential* order? Definition is an arbitrary matter; and it would be perfectly possible for all of us critical realists to call these sensible appearances and sensa *mental existents,* without implying by that term anything inconsistent with our doctrine. We should merely have to explain that identically the same entity may be both a "physical existent" and a "mental existent" (e.g., in cases where what-I-see is what-is-there, physically), and that, in other cases, these "mental existents" have no locus in nature, no part in the causal texture of events which constitutes the life of the natural world. We might say that dream-people and ghosts exist "in our minds," or "in folk-lore,"—in short, that everything we see or imagine or conceive exists "for us," just because it is at the moment our datum.

There would remain, however, a tremendous difference between dream-people and really existing people; it would still be an important question whether ghosts do or do not "really" exist. And similarly it is an important question (for our understanding of the universe, though not for practical purposes) whether "sensible appearances" in general exist.

It seems better to us, therefore, to reserve the term "existence" for the events which occur in the space-time world, and are interrelated by the laws of cause and effect. There *is* such a world, we hold, and the difference between its constituents and the infinitely various entities which appear to us in dreams and sensations, and the like, is of fundamental importance. It is to actual *existents,* in this limited sense, that we have, in the end, to adjust ourselves. Santayana's phrase "realms of being" seems to me better than "orders of existence" for covering all the various kinds of items of human discourse. I should like still better the phrase "realms of discourse."

For the term "existence" inevitably carries with it an implication of *there being something there.* Whereas our very point is that (except in so far as perception and introspection are veridical) there is nothing there. We do not really see something, we only *think we see* something. We do not have to find a locus for ghosts—there "ain't no such animal" (*pace* the Society for Psychical Research). Yet people do *see* ghosts. All perception (again, except as it is verdical) is seeing ghosts, is peopling the world with creatures of our imagination. Of course there is a difference beween perception, sensation, imagination, etc. But they are all alike in this, that the entities which they bring "before the mind" are, initially, imaginary entities, and only by good fortune actual.

Moreover, if I deny the existence of these ghosts, it is because

I affirm the existence of something else—of events within the organism, sensory and associative, which we can not directly apprehend, but whose warm, throbbing actuality gives the apparent reality to what we seem to see or feel. Perceptual data, and sensa, are outward "projections" of these inner events, due to the body's habit of reacting as to outer objects. These inner events of ours serve as cues to the body for orienting its behavior. But they are not attended to themselves. The result is that we naturally take to exist not what does exist, but purely imaginary entities which, if they existed, would have some of the attributes of our sensations and some of the attributes of outer objects. Epistemologists strain and struggle to fit these entities into the pattern of the existent world. But they are on the wrong scent. The existents which need to be fitted in are of a somewhat different sort, and their locus is quite different from the apparent locus of the imagined existents over which the epistemologists are puzzling.

Because this is so, the existent world turns out (I believe) to be much simpler and more homogeneous than it looks at first sight. Heaven knows it is complicated and puzzling enough; but the complications raised by "epistemological dualism" (and by panobjectivism) are unnecessary and purely artificial.

If I must have a numerical title for my doctrine I should prefer the mystic number three. For my conception is, in a sense, triadic; it uses three categories to explain the epistemological situation: organic events, events in the outer world (all of these belonging to a single order of existence, and fitting together nicely when one sees how to fit them together), and the data of experience (which dissolve upon analysis, turn out to be merely "concretions for discourse," and not another "order of existence").

Certainly, when you see something, something exists, or you would not be "seeing things." But you may very well be "seeing something" that isn't there—or anywhere. You *can't* grasp the nature of the physical thing which is really there, you are separated from it by too many events; you can't grasp the nature of the sensory events in your head (nor are you thinking of them at all); the only thing you *can* grasp is something you have merely imagined to exist! Consciousness is intrinsically and perpetually deceptive; i.e., it deceives us as epistemologists. For practical purposes its constant deceptions are salutary, like the beneficent deceptions of religious dogmas, which are not literally true, but do us, perhaps, more good than the bleak truth could do.

If we understand the situation thus, we see that there is no such gulf between veridical and non-veridical perception as my critic supposes my theory to imply. Somewhat similar events are taking place in my organism in both cases, somewhat similar en-

tities are thereupon supposed by me to exist in front of me. The difference is merely a difference in the outer world. In the one case the outer world *has* a feature which I take to be there, in the other case it *hasn't*. Mr. Kent is much exercised by my apparent wilfulness in taking *some* perceptual data to be actual characters of the physical world and *other* data to be non-existent. All the data of consciousness must belong, he insists, to one order. . . . Yes, of course, they belong to one "order," to the "order," or category, of "data of consciousness." But this is not to say, or to deny, that they belong also to the order of *existents*. I may very well imagine people existing on Mars; I may see them "in my mind's eye" with great vividness. Whether or not they do exist (whether or not my imagination is veridical), is a question concerning the natural history of the planet Mars. My act of imagining them has not, in any case, brought them into existence.

Perception thus (if I am right) is a very different sort of thing from what either the dualists or the pan-objectivists take it to be. It does not consist in the existence (in a mental "order of existence") of sensible appearances which somehow mirror physical things (in another "order of existence"). Rather, perception is a process of imagining things-with-such-and-such-characters to exist about us. On the other hand, natural science has been on the right track in its "bifurcation" of nature, Mr. Whitehead to the contrary. Many of these traits, which perception imagines, do not actually characterize objects; some other sort of event exists there —which the imaginary trait of our perceptual datum may serve successfully to symbolize. Science does well in rejecting the secondary qualities; they do not really characterize existing things. What science does tell us of the nature of existing things we can safely accept. It does not tell us as much as we should like to know, but there is no other trustworthy report. To clutter up nature with sensible appearances and sensa, simply because we seem-to-see them out there, is to sink back into the naïve illusion from which science had been rescuing us.

Why my doctrine is not dualism is, I trust, clear enough. It is also clear that it is not a thoroughgoing epistemological monism. It holds that the perceptual datum *is,* precisely, the existing thing which the organism is perceiving *in so far* as perception is veridical; and that this is all the monism we can *have*. It may, therefore, be called a critical, qualified monism. But perhaps it is better to say that it is neither the one nor the other, it is "beyond monism and dualism."

It may be worth while to point out, however, that it has nothing to do with Mr. Dewey's "realism without monism or dualism"— which Mr. Lamprecht has, in a recent article, identified with Mr.

Murphy's "objective relativism." That view is held by such able proponents that it seems presumptuous to say what, nevertheless, I believe to be true, viz., that it shirks the problem instead of solving it. It leaves us in the end with a world which is a hopeless confusion of contradictory aspects and non-dovetailing points of view. This is, of course, precisely what the world appears to be like, if we take experience at its face value. But common sense has persisted in believing that beneath the chaos of experience there is a relatively simple causal order of natural events; and science has steadily been revealing that cosmos-beneath-the-chaos, though it has done so by ignoring many of the data of consciousness rather than by explaining how it is that they deceive us. *Being deceived* is also an existent event; and science must learn how to fit that event into its pattern. I, for one, have high hopes that it will learn how to do so, and will eventually see clearly, what it already adumbrates, that all existent events fit together into one homogeneous space-time pattern. By that time the terms "monism" and "dualism" will doubtless be relegated to the dustheap of forgotten controversies!

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## BOOK REVIEWS

*The Philosophy of John Dewey.* Selected and edited by JOSEPH RATNER. New York: Henry Holt and Co. 1928. Pp. vii + 553.

*Inside Experience.* JOSEPH K. HART. New York: Longmans, Green and Co. 1927. Pp. xxvi + 287.

*The Philosophy of John Dewey,* edited by Joseph Ratner, should be welcome to philosophers if the philosophic virtue of curiosity has not been dulled by controversy. To be sure, it presents nothing new, since it is a compilation of extracts from all of Mr. Dewey's more important writings, but the selections have been carefully made so that the philosophy of instrumentalism stands out as a unit to challenge understanding and criticism. Instrumentalism has been a means of emancipation to many and a source of irritation to more. It has suffered from both its friends and its enemies and has hardly received the analysis or the criticism that it deserves. If the new volume presented by Mr. Ratner should lead to a rereading of Mr. Dewey's work in this form, it would do a very great service.

The editor, however, has had a different purpose in mind, that of helping "the lay reader understand Mr. Dewey's basic philosophic principles, not only in themselves, but in their manifold relations to the rest of his work." The selections are arranged "in the order

demanded by the logical development of ideas and the natural relationships of the various branches of philosophy to one another." The topics, therefore, include in order, philosophical method, metaphysics, logic, psychology, ethics, education, politics, art, and religion. Mr. Ratner has made an excellent selection and has had the assistance of Mr. Dewey in making such slight changes in the text as were necessary to gain continuity. The result is a book without the scrappiness usually so apparent in selections; it succeeds in accomplishing the editor's purpose of presenting a view of instrumentalism as a whole.

In spite of the excellence of the selections, it is difficult to believe that the book will reach the audience to whom it is addressed unless we assume an extreme optimism as to the existence of lay readers who can assimilate Mr. Dewey's theories of logic and metaphysics. Such optimism scarcely seems warranted. Much of Mr. Dewey's writing deals with extremely technical questions and is couched in language as complex as the subject-matter. Nor will the lay reader find it easier to read because it deals with questions which are, indirectly, at least, of importance to him.

For the title page, Mr. Ratner has chosen a significant quotation from Dewey: "Philosophy recovers itself when it ceases to be a device for dealing with the problems of philosophers and becomes a method, cultivated by philosophers, for dealing with the problems of men." Mr. Dewey has done outstanding service in promoting that recovery of philosophy and for that reason his contribution to contemporary thought has been the most challenging one of our times. Yet clearly the complete recovery in philosophy is still far ahead and Mr. Dewey has written in a transition period. Consequently, much of his writing has been directed to the task of persuading philosophers to give up dealing with merely traditional problems and to develop methods for handling the more immediate problems of living.

The result is that the point of view of instrumentalism is usually presented in contrast with traditional doctrines. In a very profound sense, Mr. Dewey's writing is polemical, and without a knowledge of traditional philosophies, the reader is at a loss to discover the importance and bearing of the argument. Mr. Ratner has omitted many sections which are overtly controversial, but this hardly touches the difficulty. A philosophy which has developed, partly as an antidote to traditional views and almost always with reference to them, can not be divested of its polemical character by excisions. When Mr. Dewey describes empirical subject-matter, he can be understood readily, but when he defends empiricism, the way is dark for many, certainly for lay readers.

Instrumentalism will continue to influence non-technical readers

through such books as *Democracy and Education* or *Human Nature and Conduct* and Mr. Dewey's discussions of current questions as they appear in the *New Republic* and elsewhere. His more technical writing, as it stands, can hardly be considered available for the general reader even when it is as well presented as it is in Mr. Ratner's book.

To evaluate the content of this volume apart from its design would be an impertinence, but it may not be amiss to note some impressions which this presentation makes.

An obvious one is that the most common criticisms of instrumentalism are largely beside the point. For illustration, there is the objection that the pragmatic view makes an ideal of the practical, that it is a glorification of the rather narrow utilitarian ideals of the hustling American, as the European views him. Mr. Dewey answers the objection by making it clear that the pragmatic description is meant to be just that, a description, not a prescription.

Again, in a section from *Experience and Nature* there is a careful justification for using the term "experience." As a name for subject-matter it, of course, is not a discriminative term, but if it be taken to refer to a method of inquiry, it has a definite value for empiricism.

One is impressed throughout the book by the thorough grounding of Mr. Dewey's humanism in metaphysics and psychology. It is necessary for the successful carrying out of human concerns that the function and limitations of intelligence should be accurately discriminated. Mr. Dewey's analysis is close to the common experience of ordinary men that thinking makes a difference in the conduct of life. He can not be accused of that wishful thinking which leads to unconsidered optimism, but on the contrary he avoids the other extreme so common today, the contention that thinking is epiphenomenal, making no difference except an additive one. It is somewhat curious to find the latter opinion cropping up in behavioristic literature where specific illustrations of thinking are referred to as mere behavior, as if that classification implied some lack of value.

Mr. Dewey is a pioneer of behaviorism interested in the exact function of intelligence. The ramifications of his findings in the discussions of education and morals, politics and art, indicate the importance of the analysis. And it is in these applications of his method to specific fields that Mr. Dewey succeeds best in realizing his own ideal of making philosophy a method for dealing with the problems of men.

*Inside Experience,* according to the author's statement, "originally set out to be an exposition of some of the main categories of Dr. Dewey's *Experience and Nature.* In the course of the argument,

however, it wanders a bit from that and displays vagaries which the author named would scarcely own" (p. 14).

Mr. Hart is particularly successful in presenting in readable form such categories as habit, society, and education. Here he gives the point of view of instrumentalism most persuasively. He seems less successful when he deals with subjects which are a part of traditional metaphysics or philosophy.

It is difficult, for instance, in the chapter on "Mind and Matter" to tell what Mr. Hart means to refer to by the word "mind." He tells us that the sequence of events, orderly or disorderly, may be termed "matter" and the logical connection of events, mind (pp. 118–119). Yet throughout the chapter, mind is continually used to refer to psychological behavior. Does Mr. Hart take the two to be identical?

Other illustrations of the confusing use of terms occur at points where Mr. Dewey, himself, discriminates most carefully. There is, for example, the question as to the wisdom of using the word "experience." As noted above, Mr. Dewey justifies his usage on the ground that it emphasizes empirical method. In contrast, Mr. Hart's chapter, "What is Experience?" entangles us in all the difficulties that arise when experience is taken as subject-matter, nor does it succeed in extricating us. There is little help in his stated conclusion: "In all this it is assumed that 'nature' exists independent of experiencing—in the sense that experiences are but phases of nature, having a source beyond themselves. But no one can *know* what such an independently existing nature really is. No one can *know* what is not in knowledge: that seems obvious; but he can *come to know.* But—the nature that we do eventually come to know is not something that had been 'in existence all the time.' The *thing we come to know* is an object of knowledge; but that hypothetical 'nature that has been in existence all the time' is not an object of knowledge; it is merely the intimation of something existing outside knowledge" (pp. 42–43). Experience as method is not treated as of special importance, so that the total effect is one of extreme confusion. A chapter of this kind lays instrumentalism open to the very valid attacks which Mr. Dewey himself has had to deal with.

A critic is somewhat taken aback by remarks in the preface which tend to forestall adverse criticism, whether or not they are so intended. The author points out the obvious fact that intelligibility of discourse depends not merely on the meticulous use of language, but on the concepts in the mind of the reader (p. xi). "Understanding of this point of view will be dependent upon the reader's having actually had certain ranges of critical experience" (p. xiv). This is quite true, yet it is perhaps still consonant with the modesty

becoming a critic to point out that there are ambiguities in the book which might be puzzling no matter what one's outlook. The author seems to justify them in saying: "There will probably be contradictions in the various parts: if there be not, then there must be something wrong with the book, for there are contradictions in life and experience" (p. xviii). Must one make a contradictory statement in order to indicate a contradiction?

In spite of an impressionistic method, a tendency to present confusion by confusion, the book does, as Mr. Dewey says in an introduction, contribute "to the task of revealing the structure of experience."

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*The Greek Atomists and Epicurus: A Study.* CYRIL BAILEY. Oxford: At the Clarendon Press. 198. viii + 619 pp.

*Démocrite: Doctrines Philosophiques et Réflexions Morales.* Traduites et précédées d'une introduction par MAURICE SOLOVINE. Paris: Félix Alcan. xlviii + 171 pp.

It would seem that the progress of atomic hypotheses in the scientific explanation of things comes by waves, and when it comes brings with it a renewed pulse of interest in the Greek atomists. Thus, the beginnings of classical mechanics were followed by Gassendi's works on Epicurus. The same is true of the present age of atomism inaugurated by Dalton and Avogadro, and going down by most varied lines of descent, thermodynamics and statistical mechanics, polarization and organic chemistry (Kekulé and Pasteur), spectroscopy, and radioactivity, to the recently established esoteric mysteries of wave-mechanics. This last age, too, has produced a crop of works on the early atomists, and the Greek φυσιόλογοι in general.

Much of this, of course, has been written by members of the tribe to whom Schopenhauer refers: those whose interest in a new theory seems to be only to find, if possible, someone who said it before. There have not been lacking those to find any modern discovery implicit in one or the other of the Ionian schools, and to proceed, with admirable impartiality, to blame the moderns for not knowing that the thing had been done before, and the ancients for not drawing from their statements the logical conclusions: namely, the latest notion in physics, psychology, or ethics.

The present works of Mr. Bailey and M. Solovine, fortunately, are concerned with the direct exposition of the atomic doctrines, although Mr. Bailey shows some tendency to read things into his author. Both are based on the epoch-making work of Diels, M. Solovine's altogether, and Mr. Bailey's in his first chapters. M. Solovine,

who has published a translation of Epicurus similar in scope to the present volume, has taken chapter 55 of Diels' *Vorsokratiker*, classified the fragments and references into some fifteen chapters according to subject-matter, and then translated them. This translation, with an introduction, constitutes the book. The translation is readable, and faithful enough, although an occasional nuance has been sacrified to directness. The system adopted by Diels, of translating only the direct quotations from the thinkers, has the result of leaving most of the book inaccessible except to readers of Greek, and M. Solovine has rendered a service in translating the full text of all the passages relating to Democritus collected by Diels. He has also appended those fragments of Leucippus (from ch. 54 of Diels) which refer to Leucippus alone. The introduction gives a handy short account of the theory of Democritus.

Mr. Bailey's work is on a larger scale. Mr. Bailey, who is by profession a philologist, and not a philosopher, has published an edition of the text of Lucretius in the Oxford series, and a translation of the same poet. He has also published an edition of Epicurus, with extensive commentary and critical apparatus, and the present work, *The Greek Atomists and Epicurus*, grows out of the project of presenting a critical exposition of the Epicurean system, which in fact requires much elucidation. Surely, few philosophical works are as barbarously obscure as the principal source, Epistle i (*ad Herodotum*). Epicurus' system derives from the earlier atomists, Democritus-and-Leucippus (we know that Epicurus denied the existence of the latter), and the thesis of this work is to show the reasoned development of atomic theory from the beginnings through Leucippus and Democritus to Epicurus, and to show by analytic expositions of the several thinkers that the system of Epicurus completes and rounds off, at least in general schema, the ancient atomic theory. The scheme is a good one, and in the main Mr. Bailey does justice to it, with acumen and erudition. On the other hand, the standpoint from which the work is done introduces certain defects. Mr. Bailey confesses in his introduction to a state of innocence as to science and philosophy. This, of course, is an explanation, but not an excuse, for the highly dubious statements he is sometimes led to make. His treatment of the relation between religion and philosophy (pp. 10; 51), and of Parmenides (pp. 12; 25) is, to say the least, highly uncritical. He says twice (pp. 80–82; 127): "logically, infinite differences in shapes imply infinite differences in size"; by what logic? one may ask. His lack of the elementary notions of physics leads him into strange difficulties in treating of Democritus' doctrine of weight (p. 145), where the single concept of "mass" would have cleared up the situation; a somewhat similar imbroglio as to touch and contact (p. 162) would lead us to believe that Mr. Bailey is un-

aware of the existence of electricity and magnetism, or at least would exclude them from a "purely material system." Similar cases occur in the discussion of automatism (p. 138 sqq.) and of alternative physical explanations (p. 260). Mr. Bailey also is led sometimes to quite unhistorical criticism of early thinkers. Adjectives like "puerile" (p. 99) and "stupid" (p. 152) are out of place applied to Leucippus and Democritus. On p. 321 occurs some curious philosophizing, in the pulpit manner.

We have said that on the whole Mr. Bailey does justice to his thesis. He can not, in our opinion, be said to have proved it. For one thing, the logical advance of the atomic doctrine is assumed (p. 43 at bottom), and a great deal of explanation is invented *ad hoc*, on what sometimes seem flimsy historical grounds. Thus, a chapter of forty-three closely-printed pages is devoted to the shadowy figure of Leucippus, on the theory that to Leucippus belong the origins and broad outlines of atomism, while Democritus elaborated in detail the notions he received from Leucippus. It is in many ways a convenient mythology thus to divide the creative god of atomism into two persons; but it must be remembered that almost every reference to Leucippus we have occurs in conjunction with (and subordinated to) the name of Democritus. In this respect Mr. Bailey, usually much more careful, falls behind M. Solovine. We have other factitious myths of this sort on pp. 112, 113, 118, 203. In the last passage Mr. Bailey candidly assumes that Democritus, as a materialist, was obliged to be inconsistent to be noble in his ethics; he denies, that is, the possibility of a natural ethics.

The author has in our opinion overstressed both the originality and the consistency of Epicurus in his justifiable anxiety to disprove the current notion that Epicurus adopted Democritus wholesale, for the purpose of supporting his own ethical system. According to Mr. Bailey, Epicurus based everything in his system on an unconditional sensationalism, checking at no absurdity in his loyalty to that guiding principle. This is doing Epicurus at once too much and too little honor. In the first place, it is odd to see a philosophy of radically invisible and imperceptible atoms based on the infallibility of sensation. It would seem (cf. p. 271 sqq.) that Epicurus is as notable for inconsistency as consistency. In the second place, if we consider the theory of sensation, and the εἴδωλα in particular, we can not acquit Epicurus of the charge of inconsistency with regard to his cardinal principle; it is Epicurus himself, and not, as Mr. Bailey would have it, his later disciples, who says of the εἴδωλα, "εἰ καὶ ἐνίοτε συγχεομένη ὑπάρχει" (Ep. I, D. L. X, 48) "even though they (sc. the idols) are sometimes damaged in transit"—a fatal concession. Furthermore, Mr. Bailey has accepted too readily the theory of Brieger and Giussani that Lucretius is a faithful mirror

of Epicureanism, and added nothing of his own. This notion helps us to complete a picture of Epicureanism, but its truth may be questioned.

The book, as might be expected of a product of the Clarendon Press, is a handsome, well-printed volume. The typographical errors are surprisingly few, in view of the large number of numerical citations.[1]

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NEW YORK CITY.

*The Growth of Philosophical Radicalism.* ÉLIE HALÉVY. Translated by Mary Morris. New York: The Macmillan Company. 1928. xvii + 554 pp.

The appearance of M. Halévy's *Formation du Radicalisme Philosophique* in English twenty-five years after its publication may be taken as discouraging evidence of the slowness of international communication of ideas. Or it may seem rather the more discouraging that a translation should be necessary to introduce so important a work on an English subject to the intelligent public of England and the United States, and that a glance at books subsequently touching upon the subject or conversation with people interested in the Utilitarians should readily show how great a barrier the supposedly familiar French language may be. This study might have remained even longer unfamiliar had it not been for the enthusiastic though tardy recognition of M. Halévy's *History of the English People in the Nineteenth Century* upon the translation of its first volume over ten years after its publication.

In the case of *The Growth of Philosophical Radicalism,* however, Anglo-Saxon provinciality had a certain excuse in the possession of Sir Leslie Stephen's *English Utilitarians,* which appeared in 1900, the year previous to M. Halévy's first volume. Stephen was then in his late sixties, and enjoyed the prestige of such notable books as *English Thought in the Eighteenth Century;* M. Halévy was barely past thirty. Stephen had the advantage of association with men who

[1] Some of the errors noted were:

P. 107 (and once previously). *antimonies* should read *antinomies.* If this were not carelessness, it would be a confusion of science and philosophy, with a vengeance.

P. 118, note 1: *D.4.45* should read *D.A.45.*

P. 178, l. 5: *phenominalist* should read *phenomenalist.*

P. 198, l. 13: *Athenian* should read *Abderitan.* Mr. Bailey has fallen into the rhythm of the old pedagogical cliche "Athenian boy"; here at least he has been seeing through rose-colored glasses.

P. 198, l. 22: figure *3* should read *4.*

P. 200, l. 3 from bottom: quotation mark is missing.

P. 210, l. 3: *benefitted* should read *benefited.*

P. 427, l. 9: *too* should read *two.*

had known the younger Utilitarians, and thus was able to reproduce the personal flavor of the Philosophical Radicals. His book builds up the social background in much detail, and is familiar and colorful in style. Hence it is a more elementary and popular treatment of the subject than M. Halévy's, which is a tightly knit study of "the historical and logical origins of Philosophical Radicalism," designed as "a chapter in the philosophy of history as well as a chapter in the history of philosophy." M. Halévy's detachment from British society gave him a superior objectivity. Keenly interested in his subject because of the analogies which it suggested to the movement of ideas culminating in the French Revolution, he could still regard with amused curiosity attempts "to disguise Anglo-Saxon naturalism as rationalism." He points out the important French contributions to the tangled and intricate origins of Benthamite thought in a cosmopolitan atmosphere, showing, for example, how in Ricardo the theology of Malebranche entered into an ill assorted union with Hume's naturalism which was to mean the ultimate instability of classical economics. His delight in "the paradoxical nature manifested by the march of ideas in history," his ability to hold to the main currents of thought while tracing the course of its eddies, save him from the discursiveness and somewhat finicky criticism which make *The English Utilitarians* less profound and satisfactory than *English Thought in the Eighteenth Century*. Furthermore, his consultation of the Bentham manuscripts at University College, London, and the Place manuscripts in the British Museum gave him an added ballast of facts. In the patient unravelling of the filiation of ideas, whose logical course was so frequently altered by the pressure of social needs and political events, we see emerging M. Halévy the historian. His concise logical criticism, free from the French vice of excessive simplication, delights the student of philosophy.

M. Halévy's book is of great importance, not only to the historian of thought, but to the thinker grappling with present-day problems; for Benthamite doctrine is to a great extent embodied in twentieth-century political, economic, and legal institutions, and colors our ethics and psychology. Philosophic Radicalism was a bold, thoroughgoing, and fruitful attempt to apply the methods of science to man and society; but, as M. Halévy shows, it was a premature attempt. Through its premature crystallization in institutions which had to be improvised to supersede a decaying feudal order we to-day suffer from maladjustment. For it could utilize only the techniques of Newton, and, to a slight extent, of chemistry, the other sciences having not yet developed sufficiently reliable methodology. The Philosophical Radicals were "assimilators and organizers"

rather than original minds, and consequently applied their scientific categories the more ruthlessly to the concrete realities of society, inventing convenient abstractive fictions when facts were stubborn. They were handicapped by insufficient statistics, yet minimized their importance when offered by Malthus and others. Enamored of simplicity, they deduced "laws" from hasty generalizations. It is significant that their democratic politics were a miscalculation made by universalizing the results of the Westminster elections. Their ethics, until J. S. Mill let in the light, was largely a rationalization of the economic practice of the English middle class, and this ethics vitiated much of their legal theory. Their "classical" economics mistook local and transient tendencies for universal laws, and that mistake has been perpetuated in our textbooks. Having lived much too long upon Benthamite intellectual capital, we are faced with the necessity of bringing our political, economic, and legal institutions abreast with the advance in the social sciences. Lest in our haste we repeat Benthamite errors and enclose ourselves in another tight little world, we should follow M. Halévy's admirably clear analysis of the development of Philosophic Radicalism. Behaviorist psychologists should scan the historical vicissitudes of their point of view, which counsel wariness and caution.

The translation, though good linguistically, has evidently been made by one insufficiently acquainted with the subject-matter; hence the continuance from the original text of several obvious misprints, such as the statement that James Mill's *History of India* was begun in 1806 and published in 1807 (actually, in 1817). It is also regrettable that the printing of the three French volumes as one sizable English volume should have caused the omission of two of the three valuable appendices, and the shearing down of the very full notes, often extending to more than a page of fine print and full of valuable extracts from Benthamite writings and correspondence, almost entirely to references to volumes and pages of sources. This is especially annoying when it involves the sacrifice of excerpts from inaccessible manuscripts. The abridgment at times leaves a false impression. We are told, for example, that in 1783 Bentham "published a translation of a German work on applied chemistry." Important inferences could be made if it were proved that Bentham knew German at that time; yet it is only by reference to the notes to the French text that one learns that he used the intermediary of a French translation. Likewise the excision of almost all the rich biographical material from the notes will oblige the reader to turn to Stephen for an adequate knowledge of what kind of men the Utilitarians were. There remains little indication of the vivid personality of the youthful Bentham, which has been emphasized by

the new material displayed in Mr. C. W. Everett's Introduction to his recently resurrected early work, the *Comment on the Commentaries.* Mr. Everett has provided the translation with its one improvement on the original, a full bibliography up to date.

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*Platonism.* JOHN BURNET. Sather Classical Lectures, Volume V. Berkeley: University of California Press. 1928. 130 pp.

It is fitting that Burnet's last work should bear this title, although it can hardly be called his final word on Platonism. The book consists of eight lectures, delivered in 1926, in which he reviews the issues underlying his theory of the Socratic element in Plato's philosophy. For a better understanding of this position, it is still advisable to consult his editions of the dialogues, his *Greek Philosophy, Part I,* and the recent books of Professor A. E. Taylor. The "Platonism" discussed in these lectures denotes "the doctrine taught by Plato in the Academy." This "is not to be found in his best known dialogues." Indeed, his "real doctrine" was never committed to writing at all. "There are, in fact, two Platos, the youthful Plato who was a great dramatic genius and whose chief aim was to set before us a picture of Socrates as he was, and the older Plato who seems to have lost the power of recreating an age that was past and gone, but who was the head of a school, with a philosophy of his own to impart" (p. 15). This means that much of what goes by the name of Platonism is not really Platonic (notably the doctrine of Ideas, which is Pythagorean and Socratic), while much of Plato's "real doctrine" has to be gathered indirectly from sources as yet little understood, e.g., the influence of the *Laws* in Roman jurisprudence (p. 89) or the contribution of the Academy to the mathematical sciences (p. 96). Through the study of the dialogues alone, this essential Platonism can be recovered only as a rather doubtful residuum after eliminating the large portion of Socratic doctrine on the one hand and the admixture of interpretations due to Aristotle and the Neo-Platonists on the other hand. "Briefly, the problem is, admitting that all modern science goes back ultimately to Socrates, Plato, and Aristotle, have we any means of distinguishing the contribution of each of these three men to it?" (p. 2). "I fear that I have only shown that it is impossible to do so fully, but it is at least worth trying. The danger at present is that Plato should be regarded as a sort of mixture of Socrates and Aristotle. If we would understand him, we must first clearly distinguish what is really Platonic from what belongs to his predecessor and what belongs to his successor" (p. 127).

Burnet's hypothesis is based on the chronological arrangement of Plato's writings. As he says (p. 12), he begins where Campbell and Ritter left off. Waiving the question of earlier and later stages of development in the dialogues, the two weakest points in the type of interpretation adopted by Burnet and Taylor seem to be these: first, it is flatly contradicted by Aristotle, and second, it attributes a merely "exoteric" significance to the dialogues, which must remain, after all, our main source of information about Platonism. Under Burnet's criticism, the authority of Aristotle fares rather badly. Unfitted by both birth and temperament, "it is certain that he never fully understood the teaching of the head of the Academy." "He was too little of a mathematician" to appreciate the theory of forms, and his astronomical and physical speculations were an anachronism. As to politics, even those of his own day, for these he showed little understanding. "In reality, Aristotle has never been of the first importance in the history of philosophy, except as a sort of appendage to Plato. His philosophy died with his immediate successors, Theophrastus and Eudemus, and it was not till the Platonists of the last generation of the Academy wrote commentaries upon him that he can be said to have revived" (p. 63). Burnet meets the second difficulty by extensive use of the *Epistles,* on which he is inclined to rely more than most commentators. Nevertheless, the criticism which Zeller made in his *Platonische Studien* against any assumption of an "esoteric" doctrine still retains its force. It is highly improbable, he argued, that a writer in the finest examples of his genius should give us only *die leere Schaale seiner Ansichten,* and it is no less questionable to blame the misinterpretation of his teaching on his most gifted pupil. Furthermore, in order to decide in detail just which divergences are due to Aristotle's misunderstanding and which are due to Plato's varied expression of his own views, it would be necessary to ask first, What and where is the genuine version? There are no data with which to answer such a question successfully outside of Plato's writings, so that the argument moves inevitably in a circle.

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Levi, Adolfo: La Filosofia di Tommaso Hobbes. (Biblioteca Pedagogica Antica e Moderna Italiana e Straniera, Vol. LIV.) Milano: Società Editrice Dante Alighieri. 1929. 423 pp.

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Pillsbury, W. B.: The History of Psychology. New York: W. W. Norton Co., Inc. 1929. 326 pp. $3.50.

Rehmke, Johannes: Philosophie als Grundwissenschaft. Zweite, umgearbeitete Auflage. Leipzig: Felix Meiner. 1929. vi + 651 pp. 27 M.

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Williams, Katherine Adams: The Reward Value of a Conditioned Stimulus. (University of California Publications in Psychology, Vol. 4, No. 3, pp. 31–55.) Berkeley: University of California Press. 1929.

Wright, William Kelley: General Introduction to Ethics. New York: Macmillan Co. 1929. xv + 559 pp. $2.75.

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## NOTES AND NEWS

We print below the first circular of the Seventh International Congress of Philosophy:

In accordance with the arrangement made by the Permanent International Committee in 1926, the Seventh International Congress of Philosophy will meet in September, 1930, at Oxford.

The date of the Congress will be September 1 to 6, 1930.

The recognized languages will be English, French, German, and Italian.

The programme of the Congress will follow the lines of the programme for the Sixth International Congress, held in America in 1926. The sessions will be arranged in four divisions: *A*, Metaphysics; *B*, Logic and Epistemology; *C*, Ethics and Political Philosophy; *D*, History of Philosophy. Each division will have one general meeting, and each section a special meeting. The papers will be read by specially invited delegates from the various countries. The number of speakers to be fixed beforehand can not exceed for a divisional general meeting four, or for a sectional special meeting, three. The time allotted to papers will be twenty minutes each.

Membership in the Congress will include Active Members and Associate Members (the families of Active Members). The fee for Active Members will be £1, and for Associate Members 10/–. Active Members will be entitled to a copy of the Proceedings.

All correspondence regarding the Congress should be addressed to Mr. A. H. Hannay, Secretary and Treasurer, 40 Well Walk, Hampstead, London, N.W. 3.

The detailed plans for the Congress and arrangements for accommodation will be announced later.

For the Organizing Committee,

J. A. Smith, *Chairman*,

A. H. Hannay, *Secretary*.

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